

REMARKS

Claims 1-10 were pending in the subject application prior to this Amendment. Applicant has canceled withdrawn claims 7-10 in view of the pending divisional application directed to this subject matter. Independent claim 1 has been further clarified to improve upon the wording, claim 3 has been canceled, and new claims 11 and 12 have also been added for further clarification. No new matter has been introduced into the application. Support for the foregoing amendments exists in the drawings, at page 6, lines 12-23 and page 9 of the specification.

In the outstanding Office Action, claims 1 and 3-6 were rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent 3,350,223 (Monteath) in view of U.S. Patent 4,059,123 (Bartos et al.).

The above rejection is respectfully disagreed with, and is traversed below.

It is asserted that Monteath, whether viewed alone or in combination with Bartos et al., does not disclose nor suggest all of the features set for in Applicant's independent claim 1, from which all other claims depend. That is, Monteath is directed to a method for cleaning the liquid cooling system of an internal combustion engine of automobiles. In particular, Monteath provides a method of cleaning a cooling system of an internal combustion engine of an automobile which will simultaneously clean the engine block, the radiator, the heater, and any auxiliary components such as the cooling system of the automatic transmission and the torque converter. (Col. 2, lines 46-51). Monteath is not at all concerned with the selective cleaning of an oil scavenge tube of a gas turbine engine. Monteath's hoses are not connected to each end of an oil scavenge tube of a gas turbine engine such that fluid circulates through the hoses, each hose having only one opening at each end, as claimed by Applicant.

In Monteath's "Operation summary," an "automobile having the engine cooling system to be cleaned is driven into close proximity with [the] device and the top hose between the radiator and

engine block removed.” (Col. 8, lines 11-20). Next, Monteath discloses that the thermostat of the cooling system is removed from the lower hose and the lower hose is replaced. Thereafter, hoses 115 and 116 are connected to the engine block and radiator from which the top hose was removed. (Col. 8, lines 16-29). In further contrast to the presently claimed invention, Monteath discloses the simultaneous introduction of air and water into the cooling system of an automobile. See Column 8, lines 44-62.

Monteath’s system does not selectively clean an oil scavenge tube of a gas turbine engine, as claimed by Applicant. Monteath is not at all concerned with such a problem and the skilled artisan would not be motivated to look to Monteath for guidance.

The addition of Bartos et al. does not cure the shortcomings of Monteath. In particular, Bartos et al. teaches a portable spray cleaning unit for turbine engines. This unit incorporates an auxiliary electrical power system to enable the turbine engine to be up and running during the cleaning operation to ensure thorough penetration of the cleaning and preservation solutions into all parts and chambers (Col. 1, lines 25-30). Bartos et al. further notes that the turbine must be spinning for proper cleaning of its parts and thus its process improves upon prior processes, which had to employ cranking from an auxiliary battery cart or an internal aircraft battery to run the engine. Thus more than one console was employed, which did not allow the cleaning to proceed on a coordinated basis (Col. 1, lines 35-43).

Bartos et al. further disclose the use of a spray ring assembly to inject the cleaning fluids into the gas turbine engine. A multiplicity of holes in tubes allows the liquid to spray out perpendicular to the plane of the assembly (Col. 5, lines 15-33; Fig. 6).

Monteath, alone or in combination with Bartos et al., does not disclose nor suggest any process to selectively clean an oil scavenge tube of a gas turbine engine, as claimed herein. Monteath cleans automobiles and Bartos et al. uses a spray ring assembly to spray cleaning fluids on many parts of a turbine engine while it is spinning.

Similarly, Monteath, alone or in combination with Bartos et al., does not disclose nor suggest two flexible hoses attached to a mobile flushing unit, each hose having only one opening at each end, and connected to each end of an oil scavenge tube such that fluid circulates through the hoses. One of Monteath's flexible hoses is adapted to be connected to an automobile engine block and the other is adapted to be connected to an automobile radiator (see Fig. 5 of Monteath). Bartos et al.'s flexible tubes are attached to a spray ring assembly and contain many holes along the length of its tubes from which fluid sprays into the spinning turbine (see Fig. 6 of Bartos et al. and col. 5).

Moreover, in further contrast to the afore-cited references, Applicant's mobile flushing unit is adapted to clean an oil scavenge tube while the turbine is not spinning, and is particularly adapted to clean an oil scavenge tube, which has been disassembled from the engine (see, e.g. Applicant's claims 11-12).

As disclosed in Applicant's specification at page 2, a problem sometimes encountered in the cleaning of oil scavenge tubes of a turbine rear frame is heavy coking and blocking. This problem may be addressed by stripping the turbine rear frame, including the scavenge tube, off of the low pressure module for cleaning, as the scavenge tube cannot be removed or flushed in situ. During this cleaning, the turbine rear frame may be positioned horizontally and the scavenge tube then blocked at one end. Cleaning fluid may then be manually poured into the tube and after an appropriate amount of time the fluid may be eliminated from the tube. This process may be repeated for several hours, even days, until the tube is cleared of the blockage. Although this cleaning process is effective, it is often costly and time consuming. Accordingly, there exists a need for effective cleaning processes of these tubes. The subject claims satisfies this need.

Applicant respectfully asserts that there is no teaching, suggestion or motivation that would lead one of ordinary skill in the art to combine and then modify the teachings of the cited references in an attempt to arrive at the present claims. Without such a teaching or suggestion, the invention

may only be considered obvious in hindsight, which is an improper basis for rejection.

All issues having been addressed, the subject application is believed to be in condition for immediate allowance. No new issues are presented that would require a further search and the Examiner is respectfully requested to enter and consider the amendments and remarks herein. Accordingly reconsideration and allowance is requested.

Should the Examiner believe that a discussion would help advance the prosecution of the subject application, the Examiner is invited to contact the undersigned attorney at the telephone number listed below.

Respectfully submitted,

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